

CLAIMS

What is claimed is:

1. An improved trampoline mat capable of being attached to a trampoline frame using a plurality of coil springs, the mat comprising:

a flexible bed having an outer portion, the outer portion being folded over and connected to an inner portion of the flexible bed so as to define a channel about the periphery of the flexible bed, the channel extending around the circumference of the flexible bed;

a filament disposed within the channel, the filament configured and arranged to distribute a load to the bed, the filament extending the length of the channel and meeting at opposite ends of the filament to form a loop; and

a plurality of notches formed in the bed to provide access to an interior of the channel, the notches being configured and arranged to expose a plurality of corresponding portions of the filament where the load is applied to the filament.

2. The trampoline mat of claim 1, wherein the flexible bed has no stitching that bears a substantial portion of the load.

3. The trampoline mat of claim 2, wherein the flexible bed has no grommet, elastomer or webbing that bears a substantial portion of the load.

4. The trampoline mat of claim 1, wherein the connection between the inner portion and the outer portion defines a connected portion of the flexible bed, the connected portion consisting essentially of a single material.

5. The trampoline mat of claim 4, wherein the single material is polypropylene.

6. The trampoline mat of claim 1, wherein the outer portion is connected to the inner portion by ultrasonic welding.

7. The trampoline mat of claim 1, wherein the outer portion is connected to the inner portion with heat.

8. The trampoline mat of claim 1, wherein the outer portion is connected to the inner portion with an adhesive.

9. The trampoline mat of claim 1, wherein the filament is a metal cable.

10. The trampoline mat of claim 1, wherein each portion of the filament exposed by the notches forms a v-ring.

11. The trampoline mat of claim 1, further comprising a sheath disposed in the channel around the filament.

12. The trampoline mat of claim 1, wherein the ends of the filament are connected.

13. The trampoline mat of claim 1, wherein the flexible bed in a folded position is substantially circular.

14. The trampoline mat of claim 1, wherein said outer portion is connected to said inner portion using a stitch.

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15. An improved trampoline mat capable of being attached to a trampoline frame using a plurality of coil springs, the mat comprising:

a flexible bed having an outer portion, the outer portion being folded over and connected to an inner portion of the flexible bed so as to define a channel about the periphery of the flexible bed;

a filament disposed within the channel, the filament being configured and arranged to distribute a load to the bed;

a plurality of notches formed in the folded portion of the bed to provide access to an interior of the channel, the notches being configured and arranged to expose a plurality of corresponding portions of the filament where the load is applied to the filament; and

wherein the flexible bed has no stitching that bears a substantial portion of the load.

16. The trampoline mat of claim 15, wherein the flexible bed has no grommet, elastomer or webbing that bears a substantial portion of the load.

17. The trampoline mat of claim 15, wherein the inner portion is connected to the flexible bed by ultrasonic welding.

18. The trampoline mat of claim 15, wherein the outer portion is connected to the inner portion with heat.

19. The trampoline mat of claim 15, wherein the flexible bed is constructed of a material having a plurality of fibers exposed at at least one edge, wherein substantially all the exposed fibers at the at least one edge are bonded to adjacent fibers.

20. The trampoline mat of claim 19, wherein the adjacent fibers are bonded by an ultrasonic cutter, a plasma cutter, or by heat.

21. The trampoline mat of claim 20, wherein substantially all the exposed fibers on substantially all the exposed edges have adjacent fibers bonded.

22. The trampoline mat of claim 15, wherein the filament is a braided metal cable.

23. The trampoline mat of claim 15, further comprising a sheath disposed in the channel around the filament.

24. The trampoline mat of claim 15, wherein the ends of the filament are connected.

25. A trampoline with an improved trampoline mat, the trampoline comprising:

a trampoline frame;

a flexible bed having a outer portion, the outer portion being folded over and connected to an inner portion of the flexible bed by sonic welding so as to define a channel about the periphery of the flexible bed, the channel extending around the circumference of the flexible bed;

a filament disposed within the channel, the filament configured and arranged to distribute a load to the bed, the filament extending the length of the channel and connecting at opposite ends of the filament to form a loop;

wherein the flexible bed has no stitching that bears a substantial portion of the load;

a plurality of notches formed in the bed to provide access to an interior of the channel, the notches being configured and arranged to expose a plurality of corresponding portions of the filament where the load is applied to the filament; and

a plurality of coil springs, each spring being connected to the trampoline frame at one end and to the exposed portions of the filament at the other end, the plurality of springs capable of resiliently supporting the trampoline mat above a surface.

26. The trampoline mat of claim 25, wherein the connection between the outer portion and the inner portion defines a connected portion of the flexible bed, the connected portion consisting essentially of a single material and a filler.

27. The trampoline mat of claim 25, further comprising a sheath disposed in the channel around the filament.

28. The trampoline mat of claim 25, wherein the flexible bed is substantially circular.

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29. A method for making an improved trampoline mat, the method comprising:

cutting a sheet of bed material to form a flexible bed having an inner portion, an intermediate portion, and an outer portion, the flexible bed being cut to a desired shape;

cutting a plurality of notches in the intermediate portion, the plurality of notches being spaced about the intermediate portion;

disposing a filament on the intermediate portion;

folding the outer portion over and connecting it to the inner portion to form a channel about the periphery of the flexible bed, the outer portion being folded over such that the intermediate portion is on the periphery of the bed and the filament is disposed within the channel, wherein the folding also positions the notches such that they expose corresponding spaced portions of the filament; and

connecting the filament to form a loop.

30. The method of claim 29, wherein the steps of disposing the filament and connecting the outer portion to the inner portion are performed simultaneously.

31. The method of claim 29, wherein the step of cutting the bed material comprises cutting the bed material with an ultrasonic cutter, a plasma cutter, or by heat.

32. The method of claim 29, wherein cutting the bed material bonds substantially all adjacent exposed fibers at an edge of the cut bed material.